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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/767,374
Filing Date: January 22, 2001
Appellant(s): THOMPSON ET AL.

Kurt M. Pankratz
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 4/16/2012 appealing from the Office action mailed 10/24/2011.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claims 146-166, 168-172, 174-177, 179-221, 256-274, 276-279, 286-301, and 303-311 stand finally rejected and remain pending.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner.

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

6847620	*Meier*	1/25/2005
20020019875	*Garrett* et al.	2/14/2002
7197556	*Short* et al.	3/27/2007
6677894	*Sheynblat* et al.	1/13/2004

IEEE Std 802.11, 1997.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

I. CLAIM REJECTIONS - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

A. Claims 146-177, 179-190, 192-210, 212-221,256-279, 285, and 287-301 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Meier* in view of *Garrett* et al, U.S. Patent Publication No. 2002|0019875 ["*Garrett*"], in view of *Short* et al, U.S. Patent No. 7.197.556 ["*Short*"].

***Meier* and *Short*'s priority date**

It is noted that both *Meier* and *Short*'s filing date is after the priority date of the instant application. However, the 35 U.S.C. 102(e) critical reference date of a U.S. application publications entitled to the benefit of the filing date of a provisional application under 35 U.S.C. 119(e) is the filing date of the provisional application with certain exceptions if the provisional application(s) properly supports the subject matter relied upon to make the rejection in compliance with 35 U.S.C. 112, first paragraph. MPEP §2163(III). *Meier* claims priority to two provisional applications, both of which have a priority date earlier than the instant application's priority date. Similarly, *Short* claims priority to a provisional application that has an earlier priority date.

Here, this action primarily relies upon *Meier* to teach partitioning access networks through the use of VLANs by associating specific VLANs to different service providers.

Provisional application 60|190633 properly supports this subject matter [pgs. 7-9, §3.2.1 – VLAN]. Therefore, *Meier*'s patent application is entitled to priority date of the provisional application and qualifies as a proper reference against Applicant's claims.

This action also relies on *Short*'s teaching of determining a geographic location of a portable wireless computing device and selectively providing network access to the portable device based on the determined geographic location. Provisional application 60|161093 properly supports this subject matter [pg. 9, line 25 to pg. 10, line 24]. *Short* therefore is entitled to the earlier priority date and qualifies as a proper reference against Applicant's claims.

Motivation to combine *Meier*, *Garrett*, and *Short* with respect to the independent claims

Concerning the independent claims, *Meier* did not explicitly disclose:

(1) that each of at least two VLANs is dedicated to a different respective network service provider;

(2) that the first access point provides received data to a first network service provider based on one or more attributes of the determined first VLAN; or

(3) selectively providing network access to a portable device based the received system identification information and the determined geographic location of the portable device.

However, the first two features was well known in the art at the time of Applicant's invention as evidenced by *Garrett* and the third feature was also well known in the art at the time of Applicant's invention as evidenced by *Short*.

Garrett does explicitly disclose this feature as his system maintains partitioning an access network into multiple VLANs where each VLAN is dedicated to a different respective service provider [0020 - "service provider specific Virtual LANs | 0022 – "assign frames received from

each customer on a DOCSIS LAN segment to a VLAN associated with the customer's selected service/service provider]. *Garrett* also discloses VLAN IDs for each service provider [0024]. Furthermore, *Garrett* discloses providing received data to a first network service provider based on one or more attributes of the determined first VLAN [0022, 0024 – forwarding a customer's data to the appropriate VLAN based on the VLAN ID | 0025 – "each service provider would receive frames only from its own customers"]. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of *Meier* by adding the ability to have each VLAN correspond to a respective network service provider and to forward received data to an appropriate service provider based on the VLAN's attributes as provided by *Garrett*. Here the combination satisfies the need for enable multiple service providers to share facilities of an access network infrastructure [0004]. This rationale also applies to those dependent claims utilizing the same combination.

As to the third feature, *Short* discloses a system for implementing location-based identification. Like *Meier*, *Short* teaches utilizing VLAN IDs in order to effectuate proper communications through the network [column 7 «lines 12-46»]. *Short*'s VLAN IDs or tags are analogous to the claimed system identification information.

Short further discloses a first access point determining a geographic location of a portable wireless computing device based on the VLAN tags [column 6 «lines 52-58»] and selectively providing network access to the portable wireless computing device based on the determined geographic location of the portable wireless computing device [column 6 «lines 58-61»], the network access provided using the determined first VLAN [column 9 «lines 12-54»]. It would have been obvious to one of ordinary skill in the art to have modified *Meier*'s system by adding

Short's location-based identification feature. *Short* discloses that such a feature provides improvements over traditional identification methods (as seen in *Meier*) because it allows administrators to grant network access to a specific location which enables management and billing based on specific user locations rather than users. This enhancement to *Meier*'s system would have been especially useful if one ordinary skill in the art in providing location-specific services [*Short*, column 3 «lines 1-12»].

Motivation to combine *Meier*, *Garrett*, and *Short* with respect to claims 163, 164, 198, 199, 215, and 216

Concerning claims 163, 164, 198, 199, 215, and 216, *Meier* as modified by *Garrett* and *Short* did not explicitly state that his system could utilize *IEEE* 802.1p or enforce a predefined quality of service metric to a VLAN. However, the 802.1p protocol was known in the art at the time of the applicant's invention and was designed with the purpose of extending the 802.1q protocol. *Meier* makes use of the 802.1q protocol (see, inter alia, column 2, lines 47-57) and using the 802.1p protocol would be a clear extension of his system since 802.1p was designed for use with the 802.1 q. Furthermore, 802.1p is used to define a quality of service for systems like that of *Meier*'s. Thus it would also be a clear extension of *Meier*'s system to enforce a quality of service metric to a VLAN. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of *Meier* by adding the ability to utilize *IEEE* 802.1p or enforce a predefined quality of service metric to a VLAN. For further detail on the 802.1p protocol, the applicant is directed to the related art cited in a previous action to the Network Dictionary.

All citations are to *Meier* unless otherwise expressly noted.

Claims 146, 256, and 289

Meier as modified by *Garrett* and *Short* discloses a method for providing access to a network system, the method comprising:

a first access point (figure 2, "AP") coupled to the network receiving system identification information from a portable wireless computing device (figure 2, "STA") in a wireless manner, wherein the identification information includes an identifier for a first virtual local area network (VLAN) from a plurality of possible VLANs (column 6, lines 15-22 | *Garrett*, 0024) and wherein each of at least two of the plurality of possible VLANs corresponds to a different respective network service provider from among a plurality of network service providers (*Garrett* 0022-0025);

the first access point determining the first VLAN of the plurality of possible VLANs for the portable wireless computing device after receiving the system identification information (column 10, lines 14-19);

the first access point determining a geographic location of the portable wireless computing device [*Short*, column 6 «lines 52-58»];

the first access point selectively providing network access to the portable wireless computing device based on the received system identification information [*Short*, column 7 «lines 24-38»] and the determined geographic location of the portable wireless computing device, the network access provided using the determined first VLAN [*Short*, column 6 «lines 58-61» | column 9 «lines 12-54»];

the first access point receiving data from the portable wireless computing device (column 10, lines 45-54); and

the first access point providing the received data to a first network service provider based on the first VLAN determined in said determining (column 10, lines 45-54 and *Garrett*, 0025).

Claims 147, 257, and 290

Meier as modified by *Garrett* and *Short* discloses the method of claim 146, wherein the providing the received data to a first network service provider based on the determined VLAN comprises determining, as a function of the first VLAN identifier, a first network destination [*Garrett*, 0022 – use of the VLAN ID to identify the customer's service provider]; and

forwarding the received data to the determined first network destination (column 10, lines 45-54 | *Garrett*, 0025).

Claims 148, 258, and 291

Meier as modified by *Garrett* and *Short* discloses the method of claim 146, wherein each of a plurality of possible VLANs is associated with a respective network destination of a plurality of possible network destinations (column 6, lines 1-4 | *Garrett*, Figure 3A «items 351, 352» - each VLAN associated with a service provider);

wherein the first VLAN is associated with a first network destination [column 10 «lines 45-54» | *Garrett*, 0022];

wherein said providing comprises forwarding the received data to the first network destination using the first VLAN (column 10, lines 45-54 | *Garrett*, 0025).

Claims 149, 259, and 292

Meier as modified by *Garrett* and *Short* discloses the method of claim 148, wherein the use of different VLANs for different network destinations operates to separate data traffic on the network for each of the network destinations (column 9, lines 20-33).

Claims 150, 260, and 293

Meier as modified by *Garrett* and *Short* discloses the method of claim 148, wherein at least a subset of the network destinations are dedicated to wireless service providers (column 1, lines 37-52 and *Garrett*, 0025, 0032).

Claims 151, 261, and 294

Meier as modified by *Garrett* and *Short* discloses the method of claim 148, the first access point coupled to the network receiving second system identification information from a second portable wireless computing device in a wireless manner, wherein the second system identification information indicates a second VLAN of the plurality of possible VLANs (column 9, lines 40-45 | *Garrett*, 0022, 0025 – different customers having different service providers based on the VLAN ID);

the first access point determining the second VLAN of the plurality of possible VLANs for the second portable wireless computing device from the received second system identification information (column 10, lines 14-19);

the first access point receiving second data from the second portable wireless computing device (column 10, lines 45-47); and

the first access point providing the received second data to a second network service provider based on one or more attributes of the determined second VLAN (column 10, lines 47-

54 | *Garrett*, 0022 – forwarding based on the VLAN ID). Furthermore, see figure 2 where STA A4 belongs to VLAN A.

Claims 152 and 262

Meier as modified by *Garrett* and *Short* discloses the method of claim 146, further comprising:

the first access point receiving second system identification information from a second portable wireless computing device in a wireless manner, wherein the second system identification information indicates a second VLAN of the plurality of possible VLANs (column 9, lines 40-45 | *Garrett*, 0022);

the first access point determining the second VLAN of the plurality of possible VLANs from the received the second system identification information (column 10, lines 14-19 | *Garrett*, 0022);

the first access point receiving second data from the second portable wireless computing device (column 10, lines 45-47); and

the first access point providing the received second data to a second network service provider based on one or more attributes of the determined second VLAN (column 10, lines 47-54 | *Garrett*, 0022 – forwarding based on the VLAN ID). Furthermore, see figure 2 where STA B4 belongs to VLAN B but gains access through AP3 that belongs to VLAN A.

Claims 153, 263, and 295

Meier as modified by *Garrett* and *Short* discloses the method of claim 146, wherein the network system includes a memory medium which stores a data structure comprising a list of

VLAN identifier entries and, for each entry, one or more VLAN attributes, for each of the VLANs in the plurality of possible VLANs (column 10, lines 14-28 | *Garrett*, 0022); and

wherein said determining the first VLAN of the plurality of possible VLANs includes accessing the memory medium and using the received identification information to determine one or more of the first VLAN (column 10, lines 14-19).

Claims 154 and 264

Meier as modified by *Garrett* and *Short* discloses the method of claim 153, wherein said determining one or more of the first VLAN of the plurality of possible VLANS comprises indexing into the data structure using the VLAN identification information to access one or more attributes of the first VLAN (column 10, lines 14-19 | *Garrett*, 0022).

Claims 155 and 265

Meier as modified by *Garrett* and *Short* discloses the method of claim 153, wherein the memory medium is contained in the first access point (column 10, lines 14-19).

Claims 156, 266, and 296

Meier as modified by *Garrett* and *Short* discloses the method of claim 153, wherein the one or more VLAN attributes in the data structure further includes one or more associated methods for providing data to the network [column 10 «lines 14-28» | *Garrett*, 0022]; and

wherein said determining the first VLAN of the plurality of possible VLANs includes accessing the memory medium and using the received system identification information to determine the first VLAN and one of the one or more associated methods for providing data to the network (column 10, lines 14-28).

Claims 157, 267, and 297

Meier as modified by *Garrett* and *Short* discloses the method of claim 146, wherein the system identification information includes an Institute of Electronic Engineers (*IEEE*) standardized 802.11 comprises a System Identification (SID) (column 7, lines 35-39 | *Garrett*, 0022).

Claims 158 and 268

Meier as modified by *Garrett* and *Short* discloses the method of claim 157, wherein the System Identification includes one or more of a wireless Ethernet Service Set ID (SSID), an Extended Service Set ID (ESSID), and a Basic Service Set ID (BSSID) (column 7, lines 35-39).

Claims 159 and 269

Meier as modified by *Garrett* and *Short* discloses the method of claim 158, wherein the BSSID includes an *IEEE* standardized media access control (MAC) ID (by definition of the BSSID). For BSSID definition/description see previously cited *IEEE* Std 802.11-1997, specifically section 7.1.3.3.1-7.

Claims 160, 270, and 298

Meier as modified by *Garrett* and *Short* discloses the method of claim 146, wherein said providing the received data to a first network service provider based on one or more attributes of the determined first VLAN further comprises determining an access level for the portable wireless computing device after receiving the system identification information and selectively providing the received data to the first network service provider based on the determined access level (column 10, lines 55-60 and *Garrett*, 0025).

Claims 161, 271, and 299

Meier as modified by *Garrett* and *Short* discloses the method of claim 146, further comprising: the first access point concurrently using a plurality of radio frequency (RF) channels for communicating with one or more portable wireless computing devices (column 3, lines 1-2).

Claims 162 and 272

Meier as modified by *Garrett* and *Short* discloses the method of claim 161, wherein a first RF channel of the plurality of RF channels and a second RF channel of the plurality of RF channels are non-overlapping RF channels (column 3, lines 3-5).

Claim 163

Meier as modified by *Garrett* and *Short* discloses the method of claim 146, wherein the network is operable to support *IEEE* 802.1p transmission protocol (obviousness where 802.1p is a clear extension of 802.1q).

Claim 16

Meier as modified by *Garrett* and *Short* discloses the method of claim 146, wherein the network is operable to enforce quality of service (QoS) metric as defined in the Institute of Electronic Engineers (*IEEE*) 802.1p transmission protocol (obviousness where 802.1 p is a clear extension of 802.1 q and allows definition of a quality of service metric).

Claims 165, 273, and 300

Meier as modified by *Garrett* and *Short* discloses the method of claim 146, further comprising: the first access point broadcasting a plurality of possible System Identifications (SIDs), wherein each of the plurality of possible SIDs is associated with at least one VLAN of the plurality of possible VLANs (column 8, line 62 through column 9, line 3).

Claims 166 and 274

Meier as modified by *Garrett* and *Short* discloses the method of claim 165, wherein said broadcasting the plurality of possible SIDs includes a beacon format (column 8, line 62 through column 9, line 3).

Claims 168, 276, and 301

Meier as modified by *Garrett* and *Short* discloses the method of claim 146, wherein the first access point is arranged at a known geographic location, providing network access to the portable wireless computing device (column 10, lines 45-54), further comprising selectively providing network access to the portable wireless computing device based on the known geographic location of the first access point (column 11, line 11 through column 14, line 2).

Claims 169 and 277

Meier as modified by *Garrett* and *Short* discloses the method of claim 146, wherein the first access point is arranged at a known geographic location, providing network access to the portable wireless computing device (column 10, lines 45-54) further comprising determining an access level for the portable wireless computing device from the received system identification information (column 10, lines 55-60), selectively providing network access to the portable wireless computing device based on the known geographic location of the first access point and the determined access level (column 11, line 11 through column 14, line 2).

Claims 170 and 278

Meier as modified by *Garrett* and *Short* discloses the method of claim 146, further comprising: assigning a wireless communication channel for communication between the first access point and the portable wireless computing device (column 3, lines 1-5).

Claim 171

Meier as modified by *Garrett* and *Short* discloses the method of claim 170, wherein the first access point assigns the wireless communication channel for communication between the first access point and the portable wireless computing device (column 10, lines 14-28).

Claims 172 and 279

Meier as modified by *Garrett* and *Short* discloses the method of claim 170, wherein said assigning comprises channel based on the system identification information assigning the wireless communication received from the portable wireless computing device (column 10, lines 14-28).

Claim 174

Meier as modified by *Garrett* and *Short* discloses the apparatus to implement an access point, the apparatus comprising:

a wireless access point coupled to a network (figure 2, "AP"), wherein the first wireless access point is operable to wirelessly communicate with a portable wireless computing device (figure 2, "STA"), wherein the first wireless access point is operable to receive system identification information from the portable wireless computing device including an identifier of a VLAN from among a plurality of possible VLANs (column 6, lines 15-22);

wherein each of at least two of the plurality of possible VLANs corresponds to a different respective network service provider from among a plurality of network service providers (*Garrett*, 0022);

wherein the first wireless access point is operable to determine the identifier of the VLAN indicated in the system identification information, wherein the determined VLAN corresponds to a first network service provider (column 10, lines 14-19 and *Garrett*, 0022);

wherein the first access point determining a geographic location of the portable wireless computing device [*Short*, column 6 «lines 52-58»];

wherein the first wireless access point is operable to select the first network service provider from among the plurality of possible network service providers based on the determined VLAN to provide network access to the portable wireless computing device (column 10, lines 45-54 and *Garrett*, 0022); and

wherein the first access point is operable to selectively provide the network access to the portable wireless computing device based on the received system identification information [*Short*, column 7 «lines 24-38»] and the determined geographic location of the portable wireless computing device [*Short*, column 6 «lines 58-61» | column 9 «lines 12-54»];

Claim 175

Meier as modified by *Garrett* and *Short* discloses the apparatus of claim 174, wherein each of the plurality of possible VLANS is associated with to a respective network destination of a plurality of possible network destinations (column 6, lines 1-4); wherein the first VLAN is associated with a first network destination and wherein the apparatus is operable to:

receive data from the portable wireless computing device,

determine, as a function of the first VLAN identifier, the first network destination; and

forward the received data to the determined first network destination using the first VLAN (column 10, lines 45-54).

Claim 176

Meier as modified by *Garrett* and *Short* discloses the apparatus of claim 175, wherein the use of different VLANs for different network destinations operates to separate data traffic on the network for each of the network destinations (column 9, lines 20-33).

Claims 177 and 286

Meier as modified by *Garrett* and *Short* discloses a system comprising:

a wireless access point operable to communicate with a portable wireless computing device in a wireless fashion (figure 2), wherein the wireless access point is configured to receive system identification information from the portable wireless computing device indicating a VLAN from among a plurality of possible VLANs (column 6, lines 15-22);

wherein the access point is operable to determine the VLAN indicated by the system identification information (column 10, lines 14-19);

wherein the first access point determining a geographic location of the portable wireless computing device [*Short*, column 6 «lines 52-58»];

wherein the wireless access point is operable to selectively provide network access to the portable wireless computing device based on the received system identification information [*Short*, column 7 «lines 24-38»] and the determined geographic location of the portable wireless computing device, the network access provided through the determined VLAN (column 10, lines 45-54, *Short*, column 6 «lines 58-61» | column 9 «lines 12-54);

wherein at least two of the plurality of possible VLANs is associated with a different respective network service provider from among a plurality of network service providers (*Garrett* 0022-0025); and

wherein the access point is operable to maintain an association between each of the at least two of the plurality of possible VLANs and the respective network provider from among a plurality of network service providers (*Garrett* 0022).

Claims 179 and 285

Meier as modified by *Garrett* and *Short* discloses the system of claim 177, wherein network access is provided to the portable wireless computing device through the first access point to the respective network provider (*Garrett* 0022).

Claim 180

Meier as modified by *Garrett* and *Short* discloses the system of claim 177, wherein the system identification information includes an Institute of Electronic Engineers standardized 801.11 System Identification (SID) of a plurality of possible SIDs; and wherein the first access point is operable to recognize the SID of the plurality of possible SIDs, wherein each of the recognized plurality of possible SIDs is associated with a respective one of the plurality of possible VLANs (column 7, lines 35-39).

Claim 181

Meier as modified by *Garrett* and *Short* discloses the system of claim 180, wherein at least a subset of the plurality of possible SIDs includes one or more of a Service Set ID (SSID), an Extended Service Set ID (ESSID), and a Basic Service Set ID (BSSID) (column 7, lines 35-39).

Claim 182

Meier as modified by *Garrett* and *Short* discloses the system of claim 180, further operable to maintain an association between each one of a plurality of possible SIDs and a respective one of the plurality of the plurality of possible VLANs (column 10, lines 14-28).

Claim 183

Meier as modified by *Garrett* and *Short* discloses the system of claim 180, wherein each member of a non-empty subset of the plurality of possible VLANs is associated with a respective service provider (*Garrett* 0022); and wherein the first access point is further operable to maintain an association between each member of the non-empty subset of the plurality of possible SIDs and a plurality of active subscribers of the associated service provider (column 7, lines 35-39 and *Garrett*, 0022).

Claim 184

Meier as modified by *Garrett* and *Short* discloses the system of claim 180, further operable to broadcast a non-empty subset of the plurality of possible SIDs, wherein each of the plurality of possible SIDs is associated with a respective one of the plurality of VLANs (column 8, line 62 through column 9, line 3).

Claim 185

Meier as modified by *Garrett* and *Short* discloses the system of claim 184, further operable to use a beacon format to broadcast the non-empty subset of the plurality of possible SIDs (column 8, line 62 through column 9, line 3).

Claim 186

Meier as modified by *Garrett* and *Short* discloses the system of claim 184, wherein the non-empty least a subset of the plurality of possible SIDs includes one or more of a Service Set ID (SSID), an Extended Service Set ID (ESSID), and a Basic Service Set ID (BSSID) (column 7, lines 35-39).

Claim 187

Meier as modified by *Garrett* and *Short* discloses the network system of claim 177, further operative to provide a plurality of virtual access points, wherein each virtual access point of the plurality of virtual access points corresponds to one of the plurality of possible VLANs, and wherein each virtual access point of the plurality of virtual access points provides network access services to one or more portable wireless computing devices through the corresponding VLAN (column 9, lines 58-64).

Claim 188

Meier as modified by *Garrett* and *Short* discloses the system of claim 187, wherein each virtual access point of the plurality of virtual access points provides access point functionality, wherein each virtual access point of the plurality of virtual access points is operable to simulate a distinct physical access point to the portable wireless computing device (column 9, lines 58-64).

Claim 189

Meier as modified by *Garrett* and *Short* discloses the system of claim 187, wherein each virtual access point of the plurality of virtual access points executes a wireless transmission protocol stack (by definition of 802.11 protocol referred to at column 2, lines 14-17, inter alia).

Claim 190

Meier as modified by *Garrett* and *Short* discloses the system of claim 189, wherein the wireless transmission protocol stack comprises an Institute of Electronic Engineers *IEEE* standardized 802.11 protocol stack (by definition of 802.11 protocol referred to at column 2, lines 14-17, inter alia).

Claim 192

Meier as modified by *Garrett* and *Short* discloses the system of claim 177, further comprising: a memory medium coupled to the network which stores a data structure comprising a list of system identification entries and for each entry, a respective VLAN associated with the system identification (column 10, lines 14-28); and wherein, in said maintaining an association between a VLAN and a system identification, the system is further operable to access the memory medium and use the received identification information to determine the VLAN (column 10, lines 14-19).

Claim 193

Meier as modified by *Garrett* and *Short* discloses the system of claim 192, wherein the memory medium is contained in the plurality of access point (column 10, lines 14-19).

Claim 194

Meier as modified by *Garrett* and *Short* discloses the system of claim 177, wherein the access point is maintained by a first network service provider (*Garrett*, 0022); and wherein the VLAN identification information is associated with a second network service provider (*Garrett*, 0022, 0025).

Claim 195

Meier as modified by *Garrett* and *Short* discloses the system of claim 177, wherein the access point is arranged at known location in a geographic region, wherein the access point is operable to provide geographic location information indicating the known geographic location of the portable wireless computing device (column 11, line 11 through column 14, line 2 & *Short*, column 6 «lines 58-61» | column 9 «lines 12-54).

Claim 196

Meier as modified by *Garrett* and *Short* discloses the system of claim 177, wherein the first access point is operable to assign a wireless communication channel for communication between the first access point and the portable wireless computing device (column 10, lines 14-28).

Claim 197

Meier as modified by *Garrett* and *Short* discloses the system of claim 177, wherein the access point are operable to assign a wireless communication channel based on one or more of: the system identification information received from the portable wireless computing device, and a determined access level for the portable wireless computing device, wherein said access level is determined from the system identification information (column 10, lines 14-28).

Claim 198

Meier as modified by *Garrett* and *Short* discloses the system of claim 177, wherein one or more of the plurality access points are operable to assign an Institute of Electronic Engineers (*IEEE*) standardized quality of service (QoS) based on one or more of: the system identification information received from the portable wireless computing device, and a determined access level

for the portable wireless computing device, wherein said access level is determined from the identification information (obviousness where 802.1p is a clear extension of 802.1q and allows definition of a quality of service metric).

Claim 199

Meier as modified by *Garrett* and *Short* discloses the network system of claim 177, wherein the network is operable to support the Institute of Electronic Engineers *IEEE* standardized transmission protocol commonly known as 802. 1p (obviousness where 802.1p is a clear extension of 802.11q).

Claim 200

Meier as modified by *Garrett* and *Short* discloses the system of claim 177, wherein the first access point is operable to concurrently use a plurality of radio frequency (RF) channels for communicating with one or more portable wireless computing devices (column 3, lines 1-2).

Claim 201

Meier as modified by *Garrett* and *Short* discloses the system of claim 200, wherein a first RF channel of the plurality of RF channels and a second RF channel of the plurality of RF channels are non- overlapping RF channels (column 3, lines 3-5).

Claim 202

Meier as modified by *Garrett* and *Short* discloses a method for operating a network system, the method comprising:

receiving, in a first access point (figure 2, "AP") coupled to a network, system identification information transmitted from a portable wireless computing device (figure 2, "STA") in a wireless manner (column 6, lines 15-17);

determining, in the first access point a VLAN tag corresponding to the system identification information (column 4, lines 61-65 and column 9, lines 40-45);

determining a geographic location of the portable wireless computing device [*Short*, column 6 «lines 52-58»];

selectively providing network access to the portable wireless computing device based on the received system identification information [*Short*, column 7 «lines 24-38»] and the determined geographic location of the portable wireless computing device, the network access provided using the determined VLAN tag [*Short*, column 6 «lines 58-61» | column 9 «lines 12-54];

providing the VLAN tag and the data received from the portable wireless computing device to the network (column 10, lines 45-54 and *Garrett*, 0022);

maintaining an association between the VLAN tag and a respective network provider from among the plurality of network providers (*Garrett*, 0022, 0025); and

routing the data received from the portable wireless computing device to the respective network provider associated with the determined VLAN tag from among the plurality of network providers (column 10, lines 45-54 and *Garrett*, 0022).

Claim 203

Meier as modified by *Garrett* and *Short* discloses the method of claim 202, wherein the first access point and the portable wireless computing device communicate using wireless Ethernet (by definition of 802.11 protocol referred to at column 2, lines 14-17, inter alia).

Claim 204

Meier as modified by *Garrett* and *Short* discloses the method of claim 202, wherein the identification information comprises an Institute of Electronic Engineers (*IEEE*) standardized 802.11 System Identification (column 7, lines 35-39).

Claim 205

Meier as modified by *Garrett* and *Short* discloses the method of claim 204, wherein the System Identification comprises one or more of a wireless Ethernet Service Set Identification (SSID), an Extended Service Set identification (ESSID), and a Basic Service Set identification (BSSID) (column 7, lines 35-39).

Claim 206

Meier as modified by *Garrett* and *Short* discloses the method of claim 202, wherein said associating comprises accessing a memory medium coupled to the network to determine one or more attributes to associate with the determined VLAN tag corresponding to the identification information (column 10, lines 14-28).

Claim 207

Meier as modified by *Garrett* and *Short* discloses the method of claim 206, wherein the memory medium comprises a data structure which includes a list of VLAN identification information entries and a corresponding list of VLAN attributes (column 10, lines 14-28).

Claim 208

Meier as modified by *Garrett* and *Short* discloses the method of claim 207, wherein said determining comprises using the identification information to index into the data structure using the identification information to determine the VLAN attributes (column 10, lines 14-19).

Claim 209

Meier as modified by *Garrett* and *Short* discloses the method of claim 206, wherein the first access point contains the memory medium (column 10, lines 14-19).

Claim 210

Meier as modified by *Garrett* and *Short* discloses the method of claim 202, wherein the identification information includes an Institute of Electronic Engineers (*IEEE*) standardized media access control (MAC) ID (by definition of the BSSID).

For BSSID definition/description see previously cited *IEEE* Std 802.11-1997, specifically section 7.1.3.3.1-7.

Claim 212

Meier as modified by *Garrett* and *Short* discloses the method of claim 202, further comprising: the first access point receiving second system identification information from a second portable wireless computing device in a wireless manner (column 9, lines 40-45); the first access point determining a second VLAN tag corresponding to the second system identification information (column 10, lines 14-19), wherein the second VLAN tag is associated with a second network provider (*Garrett* 0022); the first access point receiving second data from the second portable wireless computing device in a wireless manner (column 10, lines 45-47); and the first access point providing the second VLAN tag and the second data received from the second portable wireless computing device to the network, wherein the second VLAN tag is usable by the network to route the second data received from the second portable wireless computing device based on the second network provider (column 10, lines 47-54 and *Garrett* 0022); wherein the identification information is different from the second identification information;

and wherein the first network provider is different from the second network provider (column 10, lines 14-28 and *Garrett*, 0022, 0025).

Furthermore, see figure 2 where STA B4 belongs to VLAN B but gains access through AP3 that belongs to VLAN A.

Claim 213

Meier as modified by *Garrett* and *Short* discloses the method of claim 212, wherein the second identification information comprises an Institute of Electronic Engineers (*IEEE*) standardized 802.11 System Identification (column 7, lines 35-39).

Claim 214

Meier as modified by *Garrett* and *Short* discloses the method of claim 213, wherein the System Identification comprises one or more of a wireless Ethernet Service Set Identification (SSID), an Extended Service Set Identification (ESSID), and a Basic Service Set Identification (BSSID) (column 7, lines 35-39).

Claim 215

Meier as modified by *Garrett* and *Short* discloses the method of claim 202, further comprising: determining a quality of service metric as defined in the Institute of Electronic Engineers 802.1p transmission protocol based on the received system identification information; wherein said providing the VLAN tag and the data received from the portable wireless computing device to the network is based on the determined QoS metric (obviousness where 802.1p is a clear extension of 802.1q and allows definition of a quality of service metric).

Claim 216

Meier as modified by *Garrett* and *Short* discloses the method of claim 202, wherein the VLAN tag is associated with a Quality of Service (QoS) metric as defined in the Institute of Electronic Engineers (*IEEE*) 802.1p transmission protocol; and wherein the network is operable to route the data received from the portable wireless computing device to a network destination based on the quality of service indicated by the QoS metric (obviousness where 802.1 p is a clear extension of 802.1 q and allows definition of a quality of service metric).

Claim 217

Meier as modified by *Garrett* and *Short* discloses the method of claim 202, further comprising: transmitting a request for access to a remote host for the network service provider identified as a potential recipient of the data from the portable wireless computing device; receiving, from the remote host, a response to the request for access; and selectively forwarding the data to the portable wireless computing device based on the response (column 10, lines 45-54 | *Garrett* 0023).

Claim 218

Meier as modified by *Garrett* and *Short* discloses the method of claim 202, wherein the first access point is arranged at a known geographic location, the selectively providing network access to the portable wireless computing device further comprising:

providing geographic location information indicating the geographic location of the portable wireless computing device [*Short*, column 6 «lines 52-58»];

transmitting a request for access to a remote host for the network service provider identified as a potential recipient of the data from the portable wireless computing device

including the geographic location of the portable wireless computing device [column 11 «line 11» to column 14 «line 2» | *Garrett* 0022-0025];

receiving, from the remote host, a response to the request for access; and

selectively providing network access to the portable wireless computing device based on the response (column 11, line 11 through column 14, line 2 | *Garrett*, 0022).

Claim 219

Meier as modified by *Garrett* and *Short* discloses the method of claim 202, wherein the first access point is arranged at a known geographic location, the selectively providing network access to the portable wireless computing device further comprising:

providing geographic location information indicating a known geographic location of the portable wireless computing device [*Short*, column 6 «lines 52-58»];

determining an access level for the portable wireless computing device after receiving the system identification information [*Garrett* 0018 – authentication];

transmitting a request for access to a remote host for the network service provider identified as a potential recipient of the data from the portable wireless computing device including the geographic location of the portable wireless computing device and the determined access level [column 10 «lines 45-54» | *Garrett* 0022];

receiving from the remote host a response to the request for access (column 10, lines 45-54); and

wherein said providing network access comprises selectively providing network access to the portable wireless computing device based on the response (column 11, line 11 through column 14, line 2).

Claim 220

Meier as modified by *Garrett* and *Short* discloses the method of claim 202, further comprising: the first access point concurrently using a plurality of radio frequency (RF) channels for communicating with one or more portable wireless computing devices (column 3, lines 1-2).

Claim 221

Meier as modified by *Garrett* and *Short* discloses the method of claim 220, wherein a first RF channel of the plurality of RF channels and a second RF channel of the plurality of RF channels are non-overlapping RF channels (column 3, lines 3-5).

Claim 287

Meier as modified by *Garrett* and *Short* discloses a system, comprising:

a wireless access point operable to communicate with a portable wireless computing device in a wireless fashion (figure 2), wherein the wireless access point is configured to receive system identification information from the portable wireless computing device including an identifier for a VLAN of a plurality of possible VLANs (column 6, lines 15-22);

wherein the wireless access point is operable to determine the VLAN indicated by the system identification information (column 10, lines 14-19);

wherein the wireless access point is operable to determine a geographic location of the portable wireless computing device [*Short*, column 6 «lines 52-58»];

wherein the wireless access point is operable to selectively provide network access to the portable wireless computing device based on the received system identification information [*Short*, column 7 «lines 24-38»] and the determined geographic location of the portable wireless computing device, the network access provided through a service provider associated with the

determined VLAN (column 10, lines 45-54 & *Short*, column 6 «lines 58-61» | column 9 «lines 12-54);

wherein the system identification information includes an Institute of Electronic standardized 802.11 System Identification (SID) parameter to distinguish the SID from among a plurality of possible SIDs; and wherein the wireless access point is operable to recognize each SID of the plurality of possible SIDs, wherein each of the plurality of possible SIDs is identified with a respective one of the plurality of possible VLANs (column 7, lines 35-39);

wherein each of at least two of the plurality of possible VLANs is associated with a different respective service provider (*Garrett* 0022); and

wherein, for each of the at least two VLANs associated with a different respective service provider and identified by an SID, the wireless access point is operable to maintain an association between the SID and a respective plurality of active subscribers of the associated service providers (*Garrett* 0022-0025).

Claim 288

Meier as modified by *Garrett* and *Short* discloses a network system, comprising:

a plurality of wireless access points coupled to a network, wherein each of the plurality of wireless access points is operable to communicate with a portable wireless computing device in a wireless fashion (figure 2), wherein each of the plurality of wireless access points is configured to receive system identification information from the portable wireless computing device including an identifier for a VLAN of a plurality of possible VLANs (column 6, lines 15-22);

wherein each of the plurality of access points is operable to determine the VLAN indicated by the system identification information (column 10, lines 14-19);

wherein each of the plurality of access points is operable to determine a geographic location of the portable wireless computing device [*Short*, column 6 «lines 52-58»];

wherein each of the plurality of wireless access points is operable to selectively provide network access to the portable wireless computing device based on the received system identification information [*Short*, column 7 «lines 24-38»] and the determined geographic location of the portable wireless computing device, the network access provided through the determined VLAN (column 10, lines 45-54 & *Short*, column 6 «lines 58-61» | column 9 «lines 12-54);

wherein the plurality of access points are maintained by a first network service provider (*Garrett* 0022); and

wherein the system identification information indicates a second network service provider (*Garrett* 0022).

B. Claim 191 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Meier* in view of *Garrett* and *Short*, as applied above, further in view of *IEEE* Std 802.11-1997, hereinafter referred to as *IEEE*.

Motivation to combine *Meier* and *IEEE*

Concerning these claims, *Meier* and *Garrett* did not explicitly state the use of an ESSID. However, the ESSID is explicitly stated by *IEEE*. Furthermore, *Meier* does explicitly utilize a BSSID, which is related to an ESSID, and since *Meier* bases his system on the 802.11 protocol, which defines the ESSID, it would be a clear extension of his system to utilize an ESSID. Thus, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of *Meier* and *Garrett* by adding the ability to use an ESSID as provided by *IEEE*.

Claim 191

Meier as modified by *Short*, *Garrett*, and *IEEE* discloses the network system of claim 187, wherein each virtual access point of the plurality of virtual access points includes an Extended Service Set ID (ESSID), and wherein each ESSID corresponds to one of the plurality of possible VLANs (*IEEE*, sections 5.2 and 5.7, inter alia).

C. Claim 211 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Meier* in view of *Garrett* and *Short*, as applied above, further in view of Official Notice.

Pursuant to MPEP 2144.03.C., since this claim was previously rejected over the combination of *Meier*, *Garrett*, and Official Notice, and since the applicant has not traversed the use of Official Notice, the subject matter is considered to be admitted prior art (APA). Therefore, claim 211 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Meier* in view of *Garrett* and *Short* as applied above, further in view of APA.

Meier as modified by *Garrett*, *Short*, and APA discloses the method of claim 202, wherein the identification information comprises a digital certificate (APA). The use of the digital certificate for security purposes in network communications was well known in the art at the time of the applicant's invention. Therefore, Official Notice was taken and the subject matter is considered APA.

D. Claims 302-311 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Meier*, *Garrett*, and *Short*, in further view of *Sheynblat* et al., U.S. Patent No. 6.677.894 ["*Sheynblat*"].

As to claims 303-311, *Meier* as modified by *Garrett*, *Short*, and *Sheynblat* disclose the first access point receiving Global Positioning System (GPS) data from the portable wireless computing device in order to determine the geographic location of the portable wireless

computing device [*Sheynblat*, Fig. 1 «items 9, 12a-12d»: access point receiving GPS data from mobile GPS devices | column 4 «lines 33-61»]. Like *Short*, *Sheynblat* also discloses using the mobile devices' location as a means to bill the device [column 18 «line 55» | column 20 «lines 23-28»].

It would have been obvious to one of ordinary skill in the art to have modified *Meier*, *Garrett*, and *Short*'s network access system to include the GPS location-based services taught in *Sheynblat*. Such a modification improves the combined *Meier*, *Garrett*, and *Short* system to provide useful location-based services to mobile devices. And GPS is a well-known tool for determining a mobile device's location.

(10) Response to Argument

Appellant argues:

A. *Short* does not disclose the limitation "the first access point selectively providing network access to the portable wireless computing device based on the received system identification information and the determined geographic location of the portable wireless computing device, the network access provided using the determined first VLAN."

B. The combination of *Short* and *Sheynblat* is improper because *Short* teaches away from location-based identification tied to a specific user or host residing at a location and would change *Short*'s principle of operation.

These arguments should not be found persuasive for the following reasons.

A. Appellant's arguments with respect to *Short* should not be found persuasive because *Short* teaches all of the limitations as written.

Appellant argues that *Short* does not disclose providing network access "based on the received system identification information and the determined geographic location of the portable wireless device." Appellant's Brief, pg. 13, ¶ 2. Appellant emphasizes that *Short* provides access to a specific location rather than a specific user or host. Brief, pg. 13, ¶ 3. Appellant places particular emphasis on the phrase "rather than a specific user or host residing at the location" implying that the claims require providing access to a specific user or host.

However, the independent claims merely recite providing access based on:

(1) received system identification information; and

(2) the determined geographic location of the portable wireless computing device.

Short teaches these exact two prongs for granting network access through the use of a VLAN tag which provides both the system identification information as well as the information necessary to derive the device's location.

As to the "system identification information", *Short* discloses including VLAN tags within packets sent by wireless devices. Col. 7, ll. 24-38. *Short* further discloses providing network access based on these VLAN tags. Col. 8, ll. 19-28. The foregoing section recites that the network "knows what host sent it [the IP packet]...but it does not know where the host is located." To resolve the location of the host, *Short* utilizes the VLAN tags to determine the location of the user device and then grant access to the network based on this determined location.

Short provides an example of his invention in the context of providing network access to a hotel room. Col. 6, ll. 58-61. Each hotel room is given a unique VLAN tag – for example

hotel room 3120 is assigned a different VLAN tag from hotel room 1001. Col. 9, 17-20. When a user device communicates from within a hotel room, all of its packets are marked with the VLAN tag assigned to that room. Col. 8, ll. 22-29. If the packets do not have this tag, then the hotel room, and by extension, the user device within the room, cannot access the network.

In the hotel room example, if *Short*'s system decides to grant access to hotel room 3120 but not hotel room 1001, a device located in hotel room 1001 would not be able to access the network because all of the packets sent by the device would indicate that it is located in the room 1001 (instead of room 3120). In other words, the device will send out a packet which will be tagged with a VLAN tag identifying the location of the device as room 1001.

And because the packet is tagged with an incorrect VLAN tag (i.e., not a tag identifying the room 3120), the device will not be granted access to the network. Once a device is located in the room 3120 (i.e., it's geographical location), it will start sending out packets that are tagged with the room 3120 VLAN tag to the network. The room 3120 VLAN tag acts to identify the system and is used to determine the geographic location of the device. That is sufficient to read on Appellant's limitation.

Interpreting *Short*'s VLAN tags in this manner to read on Appellant's claim is consistent with an embodiment disclosed by Appellant's specification. Appellant's specification recites that the "known geographic location of the user, e.g., [is] *indicated by the access points* 120" (emphasis added). Appellant's printed publication 20020022483, ¶ 0090. The specification further recites that "the access level for each user may vary depending on the known geographic location of the AP to which the user is currently associated". '483 publication, ¶ 0036. In the context of *Short*, the device's hotel room acts as an access point for the device.

Short's teaching of utilizing the location of a specific hotel room to determine the location of a device is therefore analogous to Appellant's teaching of utilizing the location of an access point. Like what is taught in Appellant's specification, *Short* discloses that any device at a specific location will be granted access based on a determination that the device is located at that specific location.

B. Modifying *Short* to include determining a device location based on GPS coordinates does not destroy the principle of his invention.

Appellant argues that *Short* teaches away from location-based identified tied to a specific user or host residing at a location. This argument misses the point of the combination which relies on *Sheynblat* to teach another method of determining the location of the device. As noted by Appellant, *Short* describes the purpose of his invention as providing "location-based identification of subscribers as opposed [sic] identifying subscribers based on the user or the device." Col. 11, ll. 27-30.

While *Short* discloses port-mapping as one way of determining location, *Short* does not limit his invention to port-mapping as the sole method for determining location of the device. Thus, the issue is whether *Sheynblat*'s teaching of determining a *location* of a device using GPS coordinates is compatible with *Short*'s teaching of providing location-based services. There is nothing in *Sheynblat* that is contrary to *Short*'s goal of identifying a subscribers based on user or device.

Instead, *Sheynblat* discloses providing location-based billing where the location of the device is determined through GPS coordinates. Col. 20, ll 23-28. Moreover, modifying *Short* to include *Sheynblat*'s GPS-based location system does not require replacing *Short*'s port-mapping

disclosure. One of ordinary skill in the art would be able to incorporate *Sheynblat*'s GPS teachings into *Short* as an additional method for calculating a device's location.

The resulting combination is a system that has both port-mapping and GPS-derived capabilities. *Short* does not criticize or discourage the use of GPS as method for location-identification nor does *Short* expressly state that only port-mapping can be used in his system. Therefore, neither teach away from the proposed combination. *See* MPEP § 2123 (citing *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004) (stating that a prior art's failure to "criticize, discredit, or otherwise discourage the solution claimed" did not result in a teaching away (from that solution)).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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